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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RAMAKRISHNAIAH, MELUR

ART UNIT PAPER NUMBER

2614

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/965,272

Applicant(s)

HASHEM ET AL.

Examiner

Melur Ramakrishnaiah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 9, 12, 18, and 19-20, are rejected under 35 U.S.C. 102(e) as being anticipated by Baines (US PAT: 6,421,334 filed 5-13-1998).

Regarding claim 1, Baines discloses a method of operating a mobile communications base station which receives signals from a number of high mobility subscriber terminals, each of the subscriber terminal signals comprising a number of multipath components, the method comprising: for each subscriber terminal signal received, determining a best signal component, where for each determination of a best signal component includes steps of: determining the difference in time between reception of the best signal component and reference time, and transmitting to the terminal a transmission timing offset in order to receive the best signal component at substantially the reference time (fig. 5 col. 6, line 51 – col. 8, line 23).

Regarding claim 9, Baines discloses mobile communication base station which receives signals from a number of high mobility subscriber terminals, each of the subscriber terminal signals comprising a number of multipath components, the base station comprising: means (46, fig. 5) for determining a best signal component for each

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subscriber terminal, means (58, fig. 5) for determining the difference in time between reception of the best signal component and reference time, means (60, fig. 5) for transmitting to the terminal a transmission timing offset in order to receive the best component at substantially the reference time, wherein time difference determining means (reads on 56/58, fig. 5) is arranged to determine time difference and the timing offset transmitting means (60, fig. 5) is arranged to transmit a timing offset for each determination of a best signal component (col. 7, line 50 – col. 8, line 4) by the best signal component determining means (fig. 5 col. 6, line 51 – col. 8, line 23).

Regarding claims 18, 19, these claims are rejected for the same reasons as set forth in the rejection of claims 9 and 1

Regarding claim 20, Baines further teaches the following: transmission timing offset transmitted to the terminal causes the best component to be received at substantially the reference time (col. 5, lines 1-19).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baines in view of Posti (US PAT: 6,002,919).

Baines differs from claims 2 and 10 in that although he teaches timing alignment command having two or more offset absolute magnitude settings (col. 3, lines 3-10), he

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does not teach the following: the offset is in the form of a regular layer 1 timing alignment.

However, Posti discloses radio system for cordless subscriber line interface which teaches the following: the offset is in the form of a regular layer 1 timing alignment (col. 2 lines 50-64).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Baines' system to provide for the following: the offset is in the form of a regular layer 1 timing alignment as this arrangement would provide one of the ways, among many possible ways, of transmitting messages between communication devices as taught by Posti.

5. Claims 4-5, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baines in view of Hess et al. (US PAT: 5,649,303, hereinafter Hess).

Regarding claims 4 and 12, Baines does not teach the following: best signal component is determined as that having highest average value of predetermined signal parameter over a predetermined time.

However, Hess discloses method and apparatus for reducing interference among communication systems which teaches the following: best signal component is determined as that having highest average value of predetermined signal parameter over a predetermined time (col. 5 lines 38-47).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Baines' system to provide for the following: best

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signal component is determined as that having highest average value of predetermined signal parameter over a predetermined time as this arrangement would facilitate selecting the signal based on averaging to suite application needs as taught by Hess.

Regarding claim 5, Baines teaches the following: predetermined signal parameter is signal strength (col. 5 lines 56-64).

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baines.

Baines differs from claims 3 and 11 in that although he teaches selecting a timing offset from a set of predetermined offsets (col. 3 lines 3-9); he does not explicitly teach the following: magnitude time settings include a minimum setting of 1 microsecond. However, it would have been obvious to one of ordinary skill in the art at the time invention was made modify Baines' system to select time settings including 1 microsecond time setting to suite application needs of a given mobile environment.

7. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baines in view of Ostman et al. (US PAT: 6,529,494, filed 9-21-1999, hereinafter Ostman).

Regarding claims 6 and 13, Baines does not teach the following: average value of predetermined parameter for a number of signal components over a shortened predetermined period are stored, and wherein in the event of fast fading of the best signal component the signal component having the next highest average value over the shortened period is determined as the best signal component.

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However, Ostman discloses downlink timeslot power control in a time division multiple access system which teaches the following: determining values based on fading pattern and storing them in memory and using them by gain circuitry for adjustment of amplifier gain (col. 5 lines 36-48).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made modify Baines' system to provide for the following: average value of predetermined parameter for a number of signal components over a shortened predetermined period are stored, and wherein in the event of fast fading of the best signal component the signal component having the next highest average value over the shortened period is determined as the best signal component as this arrangement would facilitate demodulating signals even during fading of the signal, thus overcoming fading effect.

8. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baines in view of Hiramatsu et al. (US PAT: 6,600,933, PCT pub. Date: 10-14-1999, hereinafter Hiramatsu).

Regarding claim 7, Baines does not teach the following: determining new best component only if the average value is a predetermined threshold above a current best component.

However, Hiramatsu discloses transmission diversity method which teaches the following: generating control signal based on average value and threshold value to effect power control (col. 8, line 44 – col. 9, line 5).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made modify Baines' system to provide for the following: determining new best component only if the average value is a predetermined threshold above a current best component as this arrangement would facilitate generating signals to satisfy given criteria to achieve satisfactory signal processing to meet application requirements as taught by Hiramatsu.

Regarding claim 8, Baines teaches the following: determining a new best component only if the difference in time is above a predetermined threshold (this is implied in as much as the reference teaches mobile using new offset timing signal to transmit to the base station, col. 5 lines 3-19).

9. Claims 14-15, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toskala et al. (US2002/0093940A1, filed 1-12-2001, hereinafter Toskala) in view of Posti.

Regarding claim 14, Toskala discloses a method of operating a high mobility subscriber terminal comprising: determining a transmission timing offset transmitted from a base station, adjusting the transmission timing of the terminal according to the offset (paragraphs: 0031 – 0036).

Toskala differs from claim 14 in that he does not teach the following: the offset is in the form of layer 1 timing alignment command.

However, Posti teaches the following: the offset is in the form of layer 1 timing alignment command (col. 2 lines 50-64).

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Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Toskala's system to provide for the following: the offset is in the form of a regular layer 1 timing alignment as this arrangement would provide one of the ways, among many possible ways, of transmitting messages between communication devices as taught by Posti.

Regarding claim 16, the claim 16 is rejected from the same reasons as set forth in the rejection of claim 14.

Toskala differs from claims 15 and 17 in that although he teaches selecting a timing offset from a set of predetermined offsets (paragraph 0021); he does not explicitly teach the following: magnitude time settings include a minimum setting of 1 microsecond. However, it would have been obvious to one of ordinary skill in the art at the time invention was made modify Toskala's system to select timing offsets including 1 microsecond time offset to suite application needs of a given mobile environment.

Response to Arguments

10. Applicant's arguments filed on 3-6-2006 have been fully considered but they are not persuasive.

Rejection of claims 1, 9, 12, and 18 to 20 under 35 U.S.C 102(e) as being anticipated by Baines (US PAT: 6,421,334 filed 5-13-1998): regarding rejection of independent claim 1 using Baines reference, Applicant argues that "in the present invention, by determining a time difference between newly determined best signal

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component and a reference time and transmitting to the terminal a timing offset related to newly determined time difference, the terminal can be controlled to rapidly shift its timing for newly determined best signal component to generally align it with reference time. In a highly mobile environment ... In the case of a fixed or low mobility system as discussed in Baines, the set of timing offsets transmitted as a list to a terminal remains valid for a relatively large amount, but are not sufficiently current for high mobility system as will be better understood from the following". Regarding this, although applicant alleges that Baines deals with fixed or low mobility environment implying that its teachings are not applicable to applicant's claim limitations, Baines reference still reads on applicant's claim limitations because Baines discloses techniques for dealing with mobile environment with rapidly variations in channels and base station determining time offsets and sending it to the mobile terminals (fig. 5, col. 9, line 63 – col. 10, line 25).

Regarding Baines reference, Applicant further alleges that "The continuous one bit command stream comprising slewing can cause jitter which is undesirable and, despite the fact that in Baines each jump command requires several bits as opposed to one, the overall control message overhead in Baines is less than encountered with slewing since considerably fewer jump commands are required than the number of one bit commands used in slewing". Regarding this, applicant's arguments are not directed to applicants claim limitations but to speculation about Baines techniques causing jitter and message overhead etc.

Under item 5 of applicant's response, Applicant further arguments on Baines reference are not directed to applicant's claim limitations but to speculation about Baines techniques requiring much greater control message overhead etc.

Under item 6 of applicant's response, Applicant argues that "if the method of Baines were applied to a highly mobile environment such as discussed in the present application ... it would be necessary to replace these lists very frequently resulting in a considerable increase of control message overhead which is undesirable". As can be seen from these arguments, Applicants arguments are not directed to applicant's claim limitations but to alleged problems in techniques used in Baines.

Under item 7 of applicant's response, Applicant argues that "it is apparent from the foregoing that Baines does not disclose the limitation of new claim 1 where each time the base station determines a best signal component from the multipath components comprising a received signal strength from a subscriber terminal, it determines a time difference between the newly determined best signal component and a reference time and then transmits a timing offset to said terminal to cause said terminal to adjust transmission timing such that newly determined best signal component is received at the base station substantially in line with the reference time. In the case of Baines ... However, the list transmitted to the terminal effectively comprises "old" data which does not take into account possible temporal drifting of the signals components relative to each other ... This would not be case in high mobility environment". Regarding this, contrary to applicants interpretation of Baines reference, base station determines the best signal (strongest signal) and based on that calculates

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timing offset to be transmitted to the mobile terminal which reads on applicant's above claim limitation (fig. 5, col. 7, line 50 – col. 8, line 4). Further Baines teaches techniques for calculating timing offsets and transmitting to the mobile terminal in mobile environment (col. 9, line 63 – col. 10, line 25). In view of this rejection of amended claim 1 and other independent claims 9, 18 and 19 which are similar to claim 1 are maintained.

Applicant arguments with respect to dependent claims 2-8, 10-13 and 20 are tied to independent claims being patentable which are not as explained above.

Rejection of claims 14-17 as being obvious over Toskala et al. (US2002/0093940A1, filed 1-12-2001, hereinafter Toskala) in view of Posti (US PAT: 6,002,919): regarding rejection of claims 14-17, Applicant, after stating criteria for obviousness rejection, argues that "Toskala employs a Medium Access Control (MAC) Layer 2 ... there would be no motivation for a skilled person to interface with the system of Toskala since it presents no problem that usefully needs solved and no since no useful benefit would arise from the proposed modification suggested by the examiner". Regarding this, Applicant is arguing against individual references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In light of this, rejection of claims 1-20 is maintained.

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11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

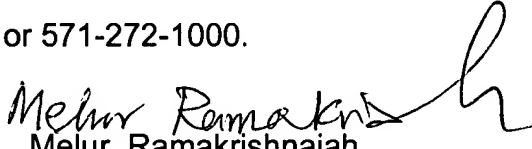
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Melur Ramakrishnaiah
Primary Examiner
Art Unit 2614